

**Centre for Industrial Consultancy and Sponsored Research (IC & SR)**

**IIT Madras**

**INVITATION FOR BID**

For and on behalf of IC & SR, IIT Madras, sealed tenders are invited in **Three Cover Tender System** for the following work being executed by IIT Madras:- (**Limited Tender**)

1)	Description:	<b>INNOVATIVE AND LOW COST APPROACH FOR TOPOGRAPHY AND HYDROGRAPHY MAPPING AROUND KAMARAJAR PORT, ENNORE</b> (Detailed scope of work as mentioned under Section-III of this specification).
2)	<b>Tender No.</b>	OED/2018/011/PROJECT/KMUR
3)	<b>Earnest Money Deposit:</b>	Rs. 1,00,000/- (Rupees One Lakh only) in the form of DD in favour of The Registrar, IIT Madras, Chennai issued by any Nationalized bank. The amount should be given with Technical bid only. If it is not attached with technical bid the tender is summarily rejected.  If the contractor/ Tenderer fails to undertake the above work after issuance of LOA the EMD should be forfeited without making any correspondence or reference to the tenderer.
4)	<b>Technical Presentation</b>	<b>11.00 A.M on 24.08.2018 (Friday)</b>
5)	Last date for Submission of Bid:	<b>16.00 Hrs. IST on 31.08.2018</b>
6)	Date & Place of Opening of Tender (Techno commercial bid):	<b>16.15 Hrs. IST on 31.08.2018</b> <b>Rm.005, Ground Floor, Department of Ocean Engineering, IIT Madras, Chennai 600036</b>  If the due date happens to be a holiday, the tender will be received & opened on the next working day.
7)	Validity of offer:	30 days from the date of opening.
8)	Method of submission of tender:	Three cover system  1 <sup>st</sup> Cover - Brochure and bulletin regarding list of machineries to be used for undertaking the above work and capabilities of the tenderer. The tenderer must have done at least three similar type of work during the last three financial year and copy of the completion certificate to be attached.

		<p>2<sup>nd</sup> Cover – Methodology to be adopted for carrying out the above work with detailed and innovative technology to achieve the five points mentioned in the scope of work. Thorough evaluation will be done on the technical bid during presentation. The tenderer should score minimum 60 % of marks in the technical presentation for qualifying to open the price bid</p> <p>3<sup>rd</sup> Cover - Only price bid</p> <p><b>Those who qualified in the 1<sup>st</sup> and 2<sup>nd</sup> cover will be eligible for Third cover (Financial bid).</b></p>
9)	Clarification to be obtained from:	<p><b>Dr. D.Kumaran Raju,</b>  <b>Department of Ocean Engineering,</b>  <b>IIT Madras, Chennai- 600 036.</b>  Email : <a href="mailto:kumaranraju@gmail.com">kumaranraju@gmail.com</a></p>
10)	Cost of Tender specification	Nil
11)	Tender Inviting Authority:	<p>Prof. K. Murali  The Project Coordinator  Department of Ocean Engineering  IIT Madras, CHENNAI - 600 036  Email.: <a href="mailto:kumaranraju@gmail.com">kumaranraju@gmail.com</a>  044 2257 5844</p>



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**SECTION -I**  
**INSTRUCTION TO BIDDERS**

**1.1 General:**

Separate sealed competitive bid under "Three cover system" is invited in the following works. (Limited Tender)

**1.2 Scope of work:**

The scope of the study shall include:

**INNOVATIVE AND LOW COST APPROACH FOR TOPOGRAPHY AND HYDROGRAPHY  
MAPPING AROUND KAMARAJAR PORT, ENNORE**

(Detailed scope of work as mentioned under Section-III of this specification).

**1.2.1 Tender No: OED/2018/011/PROJECT/KMUR**

- 1.3 EARNEST MONEY DEPOSIT (EMD):** Rs. 1,00,000/- (Rupees One Lakh only) in the form of DD in favour of The Registrar, IIT Madras, Chennai issued by any Nationalized bank. The amount should be given with Technical bid only. If it is not attached with technical bid the tender is summarily rejected.

If the contractor/ Tenderer fails to undertake the above work after issuance of LOA the EMD should be forfeited without making any correspondence or reference to the tenderer.

**1.4 TECHNICAL PRESENTATION:**

**11.00 A.M on 24.08.2018 (Friday)** – Minimum 60 % marks to be scored in the Technical presentation.

**1.5 Schedules for Receipt and Opening of Bid:**

- |   |                                |
|---|--------------------------------|
| a) Last date and time for receipt of bids | : 16.00 Hrs. IST on 31.08.2018 |
| b) Date and time for opening of bids      | : 16.15 Hrs. IST on 31.08.2018 |

**1.6 Submission of Tender:**

Tender should be furnished in sealed cover, super-scribed as "INNOVATIVE AND LOW COST APPROACH FOR TOPOGRAPHY AND HYDROGRAPHY MAPPING AROUND KAMARAJAR PORT, ENNORE"

**Three cover system**

**1<sup>st</sup> Cover - Brochure and bulletin regarding list of machineries to be used for undertaking the above work and capabilities of the tenderer. The tenderer must have done at least three similar type of work during the last three financial year and copy of the completion certificate to be attached.**

**2<sup>nd</sup> Cover - Methodology to be adopted for carrying out the above work with detailed and innovative technology to achieve the five points mentioned in the scope of work. Thorough evaluation will be done on the technical bid**

during presentation The tenderer should score minimum 60 % of marks in the technical presentation for qualifying to open the price bid

**3<sup>rd</sup> Cover - Only price bid**

**Those who qualified in the 1<sup>st</sup> and 2<sup>nd</sup> cover will be eligible for Third cover (Financial bid).**

The offer should be addressed to:

**Prof. K.Murali**  
Project Coordinator,  
Department of Ocean Engineering  
IIT Madras, Chennai- 600 036.

- 1.6.1** The Bidders have the option of sending the bid by Registered post, Courier or submitting the bid in person, so as to ensure that the bids are received in the specified office of the Purchaser, by the date and time indicated in the Sl.No.1.5 above. Bids submitted by Telex/ Fax/ Telegram/e-mail etc. will not be accepted.

**1.7 Opening of Tender**

The tenders will be opened at **Rm.005, Ground Floor, Department of Ocean Engineering, IIT Madras** on the due date and time prescribed in the presence of such of those tenderers who may desire to be present. If the due date for tender opening happens to be a holiday, the tenders will be opened on the next working day.

The individuals attending the opening of tenders should be duly authorized by the participating firms in the tender.

If the tenderer has any doubt about the meaning of any portion of this specification, he may address the Tender Inviting authority which should reach at least one week before opening of this tender. Any clarification received after this date will not be entertained.

**1.8 Tender Inviting Authority**

**Prof. K.Murali**  
Project Coordinator,  
Department of Ocean Engineering  
IIT Madras, Chennai- 600 036.





## SECTION - II

### COMMERCIAL AND TECHNICAL CONDITIONS

#### 2.1 GENERAL

The scope of services shall be as detailed in Section - III of this specification.

#### 2.2 LOCATION

The site is located in the Kamarajar Port, Ennore, Chennai.

#### 2.3 COMPLETENESS OF TENDER

The tender should be complete in all aspects. The tenderer shall furnish all relevant details called for in the specification with supporting documents wherever required for considerations by IC & SR. The tenders not containing the complete details as requested in the specification are liable for rejection.

#### 2.4 PRICES

Tenderers shall quote FIRM Price only. Shall quote price separately for each item in the respective schedule as prescribed in the specification

#### 2.5 VALIDITY OF TENDERS

Tenders should be valid for acceptance for a period of at least **(30) Thirty days** from the date of tender opening. In case any bidder quotes a lower validity period than that called for, his offer shall be liable for rejection. In exceptional circumstances, the purchaser may solicit the bidder's consent to an extension of the period of the validity. The request and response thereto shall be made in writing (including fax or telex).

#### 2.6 PAYMENT TERMS:-

The consultant shall be paid lump sum fee / charges for providing the consultancy services as per the schedule below at the specified percentages:

Sl.no	Description	% Total Consultancy charges
1	Mobilization and demobilization (after mobilization of equipment and commencement of work)	30 %
2	On submission of Draft report	50 %
3	On submission of Final reports	20 %

**2.6.1** Payment will be made by Cheque / Bank transfer on any one of the commercial banks or their branches in India as may be decided by IC & SR from time to time. If the contractor requests for DD payment, Exchange Commission for issue of bank draft will be to the account of the consultant.

**2.6.2** Offers agreeing to the above terms of payment will be preferred. IC & SR may reject the offers with other terms of payment.

## **2.7 SPECIAL CONDITIONS**

### **2.7.1 ELIGIBILITY CRITERIA (COMPULSORY)**

The tenderer must have done **at least three similar type of work** during the **last three financial year** and copy of the completion certificate to be attached.

### **2.7.2 ELIGIBILITY CRITERIA (FINANCIAL)**

**The intending tenderer must have completed the job worth of Rs.1.00 Crore turnover during the last three financial years.**

## **2.8 SCHEDULE OF SUBMISSION OF REPORT:**

- a. Submission of Draft report : Fourth week from the date of award of work
- b. Submission of Final report : Fifth week from the date of award of work

Note: The draft (01 copy) and final report (03 copies) should contain the following in PDF form, as well as the tenderer should furnish the soft copy of the reports so as to finalize the same in easy manner;

- The contour map shall be prepared preferably in A0 size with contours at 5m interval from the lowest bed level to M.W.L.
- Charts/drawings for the report all charts/ drawings shall be appropriately reduced for inclusion in the report.

## **2.9 FORCE MAJEURE**

Neither the Contractor nor the Purchaser shall be considered in default in performance of its obligations hereunder if such performance is prevented or delayed for any causes beyond the reasonable control of the party affected, such as war, hostilities, revolution, riot, civil commotion, epidemic, major fires, explosions, floods, earthquakes or because of any law, order, proclamatory regulations or ordinance of Government or because of any act of God, provided notice in writing of such cause with necessary evidence that the obligation under the Contract is thereby affected or prevented or delayed, is given within 14 days from the happening of the event and in any case it is not possible to serve the notice within 14 days period, then within the shortest possible period without delay. In case the force majeure conditions prolong beyond a continuous period of 6 months, the Purchaser shall be entitled to decide the further course of action including revisions in the terms of Contract, if any.

- 2.9.1 As soon as the cause of Force Majeure has been removed, the party whose ability to perform its obligation has been affected shall notify the other party the actual delay occurred on account of such activities.
- 2.9.2 Although the time for completion of work shall be suitably extended (not exceeding the period during which the work was stopped on account of Force Majeure clause), such extension shall not result in any financial claim by the Contractor against the Purchaser or any account of such a delay for any other reason whatsoever.



## 2.10 TAXES

The price quoted shall be firm and **shall be inclusive of all statutory levies and taxes including GST as applicable. Necessary income tax will be deducted at source** on each bill as per the regulations in force. If the Institution is exempted from payment of income tax, the documentary evidence for the same has to be furnished.

## 2.11 JURISDICTION FOR LEGAL PROCEEDINGS

No suit or any proceedings in regard to any matter arising in any respect under this contract shall be instituted in a Court Save in the City Civil Court of Chennai or the Courts of Small Causes at Chennai. It is agreed that no other courts shall have jurisdiction to entertain any suit or proceedings even though part of the cause of action might arise within their jurisdiction. In case any part of cause of action arises within the jurisdiction of any of the courts in Tamil Nadu and not in the courts in the Chennai City, it is agreed to between the parties that such suits or proceedings shall be instituted in a court within Tamil Nadu and no other court outside Tamil Nadu shall have jurisdiction, even though any part of the cause of action might arise within the jurisdiction of such courts.

The bidders shall furnish an undertaking in a non-judicial stamp paper of value Rs.100/- agreeing to the above condition as per schedule furnished in Annexure-II. This should be given after issuing the work order – This is applicable for selected L1 bidder.

## 2.12 ARBITRATION

Arbitration is not applicable to this contract.

### 2.12.2 Completion of project

Time duration of completion of project 50 days from the date of acceptance of work order. No more extension time will be allowed for executing the awarded work.

### 2.12.3 Milestones & Deliverables

Sl. No	Description of items	Period
1	High resolution Digital Surface and Elevation model at scale of 1:5000 with detailed methodology on the technique used, validation source, methodology and the results. Data to be provided in industry standard formats.	Three weeks from the date of award of contract
2	Smooth & continuous bathymetry and topography at scale of 1:5000 with details on methodology and the techniques adopted to achieve the seamless topo-bathy of the study area. Data to be provided in industry standard formats.	
3	Demonstration and data collection of water levels, current using hybrid survey systems.	
4.	Satellite derived spatial distribution of surface water quality with along the water	



	column in-situ measurements data. Data to be provided in industry standard formats.	
5	Submission of draft report	Fourth week
6	Final Report Submission	Fifth week

- (1) In-situ measurement for water levels & currents using potential hybrid instrumentation platforms and survey systems.
- (2) To carryout water quality measurement of surface and along the water column using satellite remote sensing and insitu measurements.

The tenderers should clearly indicate their acceptance or otherwise to the following terms and conditions.

1. Specific acceptance of Board's terms of payment.
2. Board's terms of Liquidated damages for delay in completion of work.
3. Validity of tender.

If no indication is given by the tenderer in his offer, it is presumed that the tenderer is agreeable to the terms and conditions of IC & SR mentioned in the specification.

All information in the bid shall be in ENGLISH only. All corrections, over typing etc. in the tender should be attested.

Tenderers are advised to post sufficiently early so as to ensure that the tenders reach this office in time. Tenders though posted in time but delayed in transit by post will not be considered, if received after the due date and time.

**NOTE: While quoting the tender, the tenderer should quote separately for each season. Administration has the right to decide according to the requirements.**

## **2.13 DEVIATIONS IN TENDER**

No deviation to be allowed.

## **2.14 IC & SR BOARD RESERVES THE RIGHT**

- a) Not to accept the lowest or any tender.
- b) To reject any or all the tenders without assigning any reasons thereof.
- c) To relax or waive any of the conditions stipulated in the tender specification as deemed necessary in the best interest of the project for good and sufficient reasons.
- d) To revise the quantum of works/completion period of work of any or all the items covered by this enquiry during the pendency of contract and to terminate the contract in between the agreed stipulated period.

## **2.15 EVALUATION AND COMPARISON OF TENDER OFFERS**

- a) The evaluation of the Tender will be done as per IIT Madras guidelines IC & SR.
- b) The evaluation shall include contract value of works with applicable sales/service tax, etc.,
- c) In case of discrepancy between the prices quoted in words and in figures, the lower of the two shall be considered.

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## **SECTION - III**

### **TECHNICAL SPECIFICATION**

#### **1.1. SCOPE OF WORK**

Mapping continuous and smooth topo-bathy of coastal and near shore environments has undergone rapid transitions from early, relatively low-resolution techniques, such as echo sounding in deeper waters and digital aerial photography in shallower waters, to modern advancements like high-density airborne laser bathymetry and multi-spectral satellite imagery that can now detect seafloor reflectance at depths ranging to 50-60 m. Cognitive recognition of features interpreted from aerial and satellite imagery, are directly applied in GIS cartography programs to create comprehensive, informative, and interactive products. This new technology and its associated classification systems permit major advancements in the detailed mapping of topo-bathy that have never before been achieved for margins of regional seas.

In the current project new and innovative established techniques need to be employed for mapping the topography and bathymetry around Kamarajar port, Ennore. The following scope is conceptualized and will be engaged in the proposed project for the mapping.

- (3) High resolution Digital Surface and Elevation model at scale of 1:5000 generated using Photogrammetry techniques and modern state of art technique
- (4) Smooth & continuous bathymetry and topography at scale of 1:5000 across waterline (surfzone, nearshore and offshore) using suitable platforms.
- (5) The vertical resolution that will be achieved through this technique need to be less than 0.1m for vertical with a spatial accuracy 0.05m.
- (6) In-situ measurement for water levels & currents using potential hybrid instrumentation platforms and survey systems.
- (7) To carryout water quality measurement of surface and along the water column using satellite remote sensing and insitu measurements.

In order to achieve the proposed scope of work multi-disciplinary expert team on software, hardware and custom instrumentation is essential to execute the tasks successfully. Also through this activity some of the outputs can be commercialized and it can be achieved easily through Industrial collaboration.







Fig.1 Proposed Topography survey area

A handwritten signature in blue ink, consisting of stylized, overlapping loops and lines.

## **2. SCHEDULE OF FEES - I**

**Tender No.** OED/2018/011/PROJECT/KMUR

**Name of the Work:**

**"INNOVATIVE AND LOW COST APPROACH FOR TOPOGRAPHY AND HYDROGRAPHY  
MAPPING AROUND KAMARAJAR PORT, ENNORE".**

<b>Sl.no</b>	<b>Description</b>	<b>% Total Consultancy charges</b>
1	Mobilization and demobilization (after mobilization of equipment and comment of work)	30
2	On submission of Draft report	50
3	On submission of Final reports	20

SIGNATURE :  
NAME :  
DESIGNATION :  
DATE :  
PLACE :  
SEAL :



### **3. ANNEXURE-I**

(This should be given after issuing the work order – This is applicable for selected L1 bidder)

#### **UNDERTAKING TOWARDS JURISDICTION FOR LEGAL PROCEEDINGS (NON JUDICIAL STAMP PAPER VALUE RS.100/-)**

This undertaking executed at.....on this ..... (Date) ..... (Month) Two thousand and ..... by M/s ..... Registered under Companies Act, 1956 having its registered office at ..... hereinafter called the contractor (which expression shall where the context so admits mean and include its successors in office and in favour of Indian Institute of Technology Madras, Chennai- 600 036. herein after called the purchaser (which expression shall where the context so admits means and includes its successors if Office and assigns).

WHEREAS a contract for the supply of .....has been awarded in favour of the contractor under the Purchase order No.....dated.....

AND WHEREAS in accordance with the terms of the above Purchase order, the contractor has to furnish un undertaking to the effect that no suit or any proceedings in regard to any matter arising in any respect under this contract shall be instituted in any matter in any respect under this contract shall be instituted in any court other than in the High court, Madras of District court at ..... or Sub-court at .....or at the District Munsiff court at ..... as the case may be.

IN CONSIDERATION of the Board having agreed to accept the undertaking the contractor hereby undertakes that no suit or any proceedings in regard to any matter arising in respect of this contract shall be instituted in any court, save in the High court, Madras or District court at.....or sub court at ..... or at the District Munsiff court at .....as the case may be it is agreed that no other court shall have jurisdiction to entertain any suit or proceedings, even though , part of the cause of action might arise within their jurisdiction. In case any part of the cause of action might arise within the jurisdiction of any other Courts in Tamil Nadu and rest within the jurisdiction of Courts outside the State of Tamil Nadu, then it is agreed to between the parties that such suits on proceedings shall be instituted in a court within the State of Tamil Nadu and no other Court outside the State of Tamil Nadu shall have jurisdiction.





IN WITNESS WHEREOF Thiru..... of M/s .....  
hereby put his hand and seal for due observance of the undertaking in the presence of the  
following witnesses

COMPANY SEAL

SIGNATURE :

DESIGNATION :

COMPANY :

DATE :

WITNESSES:

1)

2)

